

CLAIMS

1. A power supply adjustment system, comprising:
a power supply configured to generate an output;
a powered device configured to receive the output and generate a control signal related to the output; and
an adjustment circuit configured to receive the control signal and generate a difference signal to adjust the output of the power supply.
2. A power supply adjustment system as recited in claim 1, wherein the adjustment circuit is further configured to generate the difference signal to increase the output of the power supply.
3. A power supply adjustment system as recited in claim 1, wherein the adjustment circuit is further configured to generate the difference signal to decrease the output of the power supply.
4. A power supply adjustment system as recited in claim 1, wherein the adjustment circuit includes a feedback network configured to generate a feedback signal, and includes an integrator circuit configured to generate the difference signal.

5. A power supply adjustment system as recited in claim 1, wherein the adjustment circuit includes a feedback network configured to generate a feedback signal, and includes an integrator circuit configured to generate the difference signal, and wherein:

the feedback network includes a voltage divider circuit configured to divide the output of the power supply down to the feedback signal that is applied to the power supply; and

the integrator circuit includes a buffer circuit configured to receive the control signal, and includes a DC filter configured to filter the control signal and generate the difference signal to vary the feedback signal.

6. A power supply adjustment system as recited in claim 5, wherein the DC filter is further configured to generate the difference signal to decrease the feedback signal generated by the feedback network such that the power supply increases the output.

7. A power supply adjustment system as recited in claim 5, wherein the DC filter is further configured to generate the difference signal to increase the feedback signal generated by the feedback network such that the power supply decreases the output.

8. A power supply adjustment system as recited in claim 5, wherein the feedback network further comprises an RC time constant circuit configured to limit the output during start up of the power supply.

9. A power supply adjustment system as recited in claim 1, wherein:

the output generated by the power supply is a voltage output;

the adjustment circuit includes a feedback network configured to generate a feedback voltage, and includes an integrator circuit configured to generate the difference signal as a difference voltage;

the feedback network includes a voltage divider circuit configured to divide the voltage output of the power supply down to the feedback voltage that is applied to the power supply; and

the integrator circuit includes a buffer circuit configured to receive the control signal, and includes a DC filter configured to filter the control signal and generate the difference voltage to vary the feedback voltage.

10. A power supply adjustment system as recited in claim 1, further comprising logic configured to vary the control signal according to the output received from the power supply.

11. A power supply adjustment system as recited in claim 1, further comprising logic configured to vary the control signal to adjust the output of the power supply.

12. A power supply adjustment system as recited in claim 1, wherein the output generated by the power supply is a voltage output, the control signal generated by the powered device is a pulse width modulated control signal, and wherein the adjustment circuit is further configured to receive the pulse width modulated control signal and generate the difference signal as a difference voltage to adjust the voltage output of the power supply.

13. A printing device comprising the power supply adjustment system as recited in claim 1.

14. A voltage adjustment circuit, comprising:

a feedback network that includes a voltage divider circuit configured to divide a voltage output from a power supply down to a feedback voltage that is applied to the power supply; and

an integrator circuit that includes a buffer circuit configured to receive a pulse width modulated control signal from a device that is powered by the voltage output from the power supply, and includes a DC filter configured to filter the pulse width modulated control signal and generate a difference voltage that varies the feedback voltage generated by the feedback network to adjust the voltage output of the power supply.

15. A voltage adjustment circuit as recited in claim 14, wherein the feedback network further includes an RC time constant circuit configured to limit the voltage output during start up of the power supply.

16. A voltage adjustment circuit as recited in claim 14, wherein the buffer circuit includes a transistor, a transistor base current-limiting resistor, and a transistor pull-down resistor.

17. A voltage adjustment circuit as recited in claim 14, wherein the integrator circuit generates the difference voltage to decrease the feedback voltage generated by the feedback network such that the voltage output of the power supply is increased.

18. A voltage adjustment circuit as recited in claim 14, wherein the integrator circuit generates the difference voltage to increase the feedback voltage generated by the feedback network such that the voltage output of the power supply is decreased.

19. A power supply adjustment system comprising the voltage adjustment circuit as recited in claim 14.

20. A printing device comprising the voltage adjustment circuit as recited in claim 14.

21. A printing device, comprising:

- one or more pens configured to deposit an imaging medium on a print media;
- a power supply configured to generate a voltage output that is coupled to power the one or more pens;
- an integrated circuit configured to generate a pulse width modulated control signal, the integrated circuit configured external to the power supply; and
- a voltage adjustment circuit configured to receive the pulse width modulated control signal and generate a difference voltage to adjust the voltage output of the power supply.

22. A printing device as recited in claim 21, wherein the integrated circuit is further configured to generate the pulse width modulated control signal such that the power supply voltage output is adjusted to correspond to a desired print quality of the printing device.

23. A printing device as recited in claim 21, wherein the voltage adjustment circuit is further configured to generate the difference voltage to increase the voltage output of the power supply.

24. A printing device as recited in claim 21, wherein the voltage adjustment circuit is further configured to generate the difference voltage to decrease the voltage output of the power supply.

25. A printing device as recited in claim 21, wherein the voltage adjustment circuit includes a feedback network configured to generate a feedback voltage, and includes an integrator circuit configured to generate the difference voltage.

26. A printing device as recited in claim 21, wherein the voltage adjustment circuit includes a feedback network configured to generate a feedback voltage, and includes an integrator circuit configured to generate the difference voltage, and wherein:

the feedback network includes a voltage divider circuit configured to divide the voltage output from the power supply down to the feedback voltage that is applied to the power supply; and

the integrator circuit includes a buffer circuit configured to receive the pulse width modulated control signal, and includes a DC filter configured to filter the pulse width modulated control signal and generate the difference voltage to vary the feedback voltage.

27. A printing device as recited in claim 26, wherein the DC filter is further configured to generate the difference voltage to decrease the feedback voltage such that the voltage output of the power supply increases.

28. A printing device as recited in claim 26, wherein the DC filter is further configured to generate the difference voltage to increase the feedback voltage such that the voltage output of the power supply decreases.

29. A printing device as recited in claim 26, wherein the feedback network further includes an RC time constant circuit configured to limit the voltage output during start up of the power supply.

30. A printing device as recited in claim 21, further comprising logic configured to vary the pulse width modulated control signal to control the voltage output received from the power supply.

31. A printing device as recited in claim 21, further comprising logic configured to vary the pulse width modulated control signal to increase the voltage output of the power supply.

32. A printing device as recited in claim 21, further comprising logic configured to vary the pulse width modulated control signal to decrease the voltage output of the power supply.

33. A method, comprising:
receiving an output from a power supply;
determining whether the output corresponds to a predetermined level of component operation;
generating a control signal for input to an adjustment circuit, the control signal being generated external to the power supply; and
generating a difference signal according to the control signal to adjust the output of the power supply.

34. A method as recited in claim 33, wherein generating the difference signal includes generating the difference signal to increase the output of the power supply.

35. A method as recited in claim 33, wherein generating the difference signal includes generating the difference signal to decrease the output of the power supply.

36. A method as recited in claim 33, wherein generating the difference signal includes:

buffering the control signal with a buffer circuit; and

filtering the control signal with a DC filter to generate the difference signal that varies a feedback signal to the power supply.

37. A method as recited in claim 33, further comprising reducing the output from the power supply during start up of the power supply with an RC time constant circuit.

38. A method as recited in claim 33, further comprising varying the control signal to control the output received from the power supply.

39. A method as recited in claim 33, further comprising varying the control signal to increase the output received from the power supply.

40. A method as recited in claim 33, further comprising varying the control signal to decrease the output received from the power supply.

41. A method, comprising:
generating a voltage output with a power supply;
coupling the voltage output to powered components of a printing device, the powered components including one or more pens that deposit an imaging medium on a print media when powered to turn-on;
determining whether the voltage output of the power supply corresponds to a predetermined pen turn-on energy;
generating a pulse width modulated control signal for input to a voltage adjustment circuit; and
generating a difference voltage with the voltage adjustment circuit to adjust the voltage output of the power supply.

42. A method as recited in claim 41, wherein generating the difference voltage includes generating the difference voltage to increase the voltage output of the power supply.

43. A method as recited in claim 41, wherein generating the difference voltage includes generating the difference voltage to decrease the voltage output of the power supply.

44. A method as recited in claim 41, further comprising dividing the voltage output down to a feedback voltage with a voltage divider circuit.

45. A method as recited in claim 41, wherein generating the difference voltage includes:

buffering the pulse width modulated control signal with a buffer circuit;
and

filtering the pulse width modulated control signal with a DC filter to generate the difference voltage to vary a feedback voltage to the power supply.

46. A method as recited in claim 41, further comprising limiting the voltage output from the power supply during start up of the power supply with an RC time constant circuit.

47. A method as recited in claim 41, further comprising varying the pulse width modulated control signal to adjust the voltage output received from the power supply such that the voltage output corresponds to the predetermined pen turn-on energy.

48. A method as recited in claim 41, further comprising varying the pulse width modulated control signal to control the voltage output received from the power supply.

49. One or more computer-readable media comprising computer executable instructions that, when executed, direct a printing device to:

determine whether an output from a power supply corresponds to a predetermined pen turn-on energy that powers one or more pens which deposit an imaging medium on a print media;

generate a control signal for input to an adjustment circuit, the control signal configured to be generated external to the power supply; and

generate a difference signal according to the control signal to adjust the output of the power supply.

50. One or more computer-readable media as recited in claim 49, further comprising computer executable instructions that, when executed, direct the printing device to generate the difference signal to increase the output of the power supply.

51. One or more computer-readable media as recited in claim 49, further comprising computer executable instructions that, when executed, direct the printing device to generate the difference signal to decrease the output of the power supply.

52. One or more computer-readable media as recited in claim 49, further comprising computer executable instructions that, when executed, direct the printing device to adjust the control signal to control the output from the power supply such that the output corresponds to the predetermined pen turn-on energy.

53. A printing device, comprising:

means to couple a voltage output from a power supply to powered components of a printing device, the powered components including one or more pens that each deposit an imaging medium on a print media when the voltage output is applied;

means to determine whether the voltage output corresponds to a predetermined pen turn-on energy;

means to generate a pulse width modulated control signal for input to a voltage adjustment circuit that generates a difference voltage; and

means to adjust the voltage output of the power supply based upon the difference voltage and the voltage output.

54. A printing device as recited in claim 53, further comprising means to reduce the voltage output of the power supply during start up of the power supply.

55. A printing device as recited in claim 53, further comprising means to adjust the pulse width modulated control signal to control the voltage output of the power supply such that the voltage output corresponds to the predetermined pen turn-on energy.

56. A printing device as recited in claim 53, further comprising means to adjust the pulse width modulated control signal to increase the voltage output from the power supply.

57. A printing device as recited in claim 53, further comprising means to adjust the pulse width modulated control signal to decrease the voltage output from the power supply.